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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/303,587	05/03/1999	MIKA VILJANMAA	990.119CON	8567

21831 7590 12/31/2001

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EXAMINER

HUYNH, LOUIS K

ART UNIT	PAPER NUMBER
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3721

DATE MAILED: 12/31/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/303,587	VILJANMAA ET AL.	
	Examiner	Art Unit	
	Louis K. Huynh	3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-13,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6, 8-13, 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Several phrases in the claims are vague, confusing and/or indefinite, for example:

“assigning ... intermediate rolls” (claim 1, lines 8-9) is indefinite for a physical property value of an object can not be assigned since it is a property; “assigning at least one value to a physical property” (claim 11, lines 8-9) is indefinite for each physical property of an object should not have more than one definite value, further a physical property value of an object can not be assigned since it is a property; etc.

Several phrases in the claims lack proper antecedent basis, for example: “the linear loads” (claims 1 & 11, line 10); etc.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8, 11-13, 15 and 16, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Schiel (5,226,357).

Schiel discloses a paper calender and a method of calendering wherein a control computer (7) is programmed in accordance with a complex system of formulas of the multi-roll calender (1), which formulas associate the values of the weight forces, the linear loads resulting therefrom and the sag-free linear forces; the computer also determine the internal pressure of the sag-compensation roll (2) (column 3, line 31-37) by taking into account the known physical properties such as weights forces as well as the inherent stiffness of all rolls (column 2, lines 32-52) so that the support forces can be adjusted to have a relatively large control range of the linear forces in the calender nips (column 2, line 6-10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-10, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiel (5,226,357) in view of Koivukunnas et al. (5,438,920).

The method of Schiel discloses all of applicants' claimed subject matter but lacks the specific teaching of the distribution of linear load in the set of rolls from nip to nip is about 90°, or can be adjusted in the range from about 75° to about 80°.

Koivukunnas et al. disclose a method for calendering paper web wherein the linear load in the set of rolls from nip to nip is adjustable as illustrated in Figures 1A, 1B and 1C for different quality of the treated paper web (column 4, lines 19-37).

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It would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have applied the teaching of Koivukunnas et al. into the method of Schiel so that desirable linear load in the set of rolls from nip to nip can be utilized for different paper qualities.

Response to Arguments

Applicant's arguments filed October 19, 2001 have been fully considered but they are not persuasive. Applicants content that the method and arrangement according to the present invention differs from the applied prior art (US 5,226,357) in the following manner:

- the deflection properties of the intermediate rolls may differ from each other;
- both the upper and lower rolls are variable-crown rolls and are controllable by zones;
- the relief pressures of the intermediate rolls are calculated according to the grade of paper;
- a very accurate and detailed calculation is used in calculating the relief pressures, so that in said calculation at least the following features accounted for: the effect of the external masses; the stiffness, masses and form of the rolls; the base constants and material properties of the polymer rolls; the effect of the temperature on the elastic modulus; the symmetry of the service side and driving side of the machine;
- the calculation of the relief pressures by means mathematical programming and optimizing; and minimizing the deflection of the intermediate rolls by optimizing the relief pressures;
- updating the data base carrying out the calculation with each change or variation in the rolls.

However, the above differences are not clearly reflected in the claimed method and arrangement but rather found in the supporting specification.

Claim 1 recited an improved method comprising a step of assigning a value to a physical property affecting the bending of an intermediate roll and a step of regulating one of a ratio of the linear loads, the weight of the intermediate roll, and the support forces. Although Schiel does not assign any values but does utilize the physical property values of the rolls in regulating forces acting on the set of rolls, thus anticipates the claimed improved method.

Claim 11 recited an improved arrangement comprising an automation system and a computing unit for assigning at least one value to a physical property affecting the bending of an intermediate roll and for regulating at least one of a ratio of the linear loads, the weight of the intermediate roll, and the support forces. Schiel disclose a computer (7) which utilizes the physical property values of the rolls in regulating forces acting on the set of rolls, thus anticipates the claimed improved arrangement.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

8. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

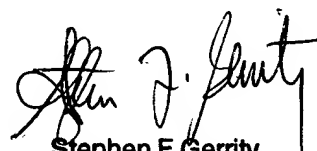
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis K. Huynh whose telephone number is (703) 306-5694.

The examiner can normally be reached on M-F from 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on (703) 308-2187. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 308-7769 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

LH
December 26, 2001



Stephen F. Gerrity
Primary Examiner